

FREQUENCY AGILE EXCITER

ABSTRACT

Systems and methods are provided for providing high dynamic range operation over a variable range of frequencies. A delta-sigma modulator, having associated frequency characteristics, produces a digital output signal. A digital-to-analog converter converts the digital output signal into an analog signal. A clock circuit provides a clock signal to the delta-sigma modulator and the digital-to-analog converter. A frequency control controls one or more of the clock circuit, the delta-sigma modulator, and the digital-to-analog converter to alter the frequency characteristics of the delta-sigma modulator. A filter circuit can provide one or more passbands to one or more downstream amplifiers ensuring that out of band quantization noise is removed before amplification.